

## SEQUENCE LISTING

<110> ZENECA Limited  
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<120> Genetic Method

<130> PPD 50348/WO

<140>

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<150> GB 9818001.1

<151> 1998-08-18

<150> GB 9826753.7

<151> 1998-12-04

<160> 81

<170> PatentIn Ver. 2.1

<210> 1

<211> 446

<212> DNA

<213> Dahlia merckii

<220>

<221> CDS

<222> (1)..(64)

<220>

<221> CDS

<222> (157)..(446)

&lt;400&gt; 1

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Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

gtg ctc gcc atc tca g gttatcaa at ctttagttca tttattgaat atgatagttat 104  
Val Leu Ala Ile Ser

20

ttatattctt ttatggttt atgtgtctg acaagttgca aatattgagt ag at atc 161  
Asp Ile

gca tcc gtt agt gga gaa cta tgc gag aaa gct agc aag aca tgg tcg 209  
Ala Ser Val Ser Gly Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser  
25 30 35

gga aac tgt ggc aat acg gga cat tgt gac aac caa tgt aaa tca tgg 257  
Gly Asn Cys Gly Asn Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp  
40 45 50 55

gag ggt gcg gcc cat gga gcg tgt cat gtg cgt aac ggg aaa cac atg 305  
Glu Gly Ala Ala His Gly Ala Cys His Val Arg Asn Gly Lys His Met  
60 65 70

tgt ttc tgt tac ttc aat tgt aaa aaa gcc gaa aag ctt gct caa gac 353  
Cys Phe Cys Tyr Phe Asn Cys Lys Lys Ala Glu Lys Leu Ala Gln Asp  
75 80 85

aaa ctt aaa gcc gaa caa ctc gct caa gac aaa ctt aat gcc caa aag 401  
Lys Leu Lys Ala Glu Gln Leu Ala Gln Asp Lys Leu Asn Ala Gln Lys  
90 95 100

ctt gac cgt gat gcc aag aaa gtg gtt cca aac gtt gaa cat ccg 446  
Leu Asp Arg Asp Ala Lys Lys Val Val Pro Asn Val Glu His Pro  
105 110 115

&lt;210&gt; 2

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; Dahlia merckii

&lt;400&gt; 2

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys  
65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala Gln  
85 90 95

Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val Val  
100 105 110

Pro Asn Val Glu His Pro

115

&lt;210&gt; 3

&lt;211&gt; 16

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Linker  
propeptide

&lt;400&gt; 3

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly  
1 5 10 15

&lt;210&gt; 4

&lt;211&gt; 20

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Linker  
propeptide

&lt;400&gt; 4

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu  
1 5 10 15

Ile Gly Lys Arg

20

&lt;210&gt; 5

&lt;211&gt; 40

&lt;212&gt; PRT

&lt;213&gt; Dahlia merckii

&lt;400&gt; 5

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu  
1 5 10 15

Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys

20

25

30

Val Val Pro Asn Val Glu His Pro  
35 40

<210> 6  
<211> 44  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Linker  
propeptide

<400> 6  
Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu  
1 5 10 15

Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys  
20 25 30

Val Val Pro Asn Val Glu His Pro Ile Gly Lys Arg  
35 40

<210> 7  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Linker  
propeptide

<400> 7  
Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr  
1 5 10 15

Ile Gly Lys Arg

20

<210> 8

<211> 31

<212> PRT

<213> Amaranthus caudatus

<400> 8

Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr  
1 5 10 15

Ala Lys Asn Pro Thr Asp Ala Lys Leu Ala Gly Ala Gly Ser Pro  
20 25 30

<210> 9

<211> 522

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (76)..(513)

<400> 9

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Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val

1

5

10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159  
Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly  
15 20 25

gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207  
Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn  
30 35 40

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255  
Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His  
45 50 55 60

gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303  
Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe  
65 70 75

aat tgt tcc aac gct gac gag gtg gct acc cca gag gac gtg gag 351  
Asn Cys Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu  
80 85 90

cca gga cag aag ttg tgc caa agg cca agt ggg aca tgg tca gga gtc 399  
Pro Gly Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val  
95 100 105

tgt gga aac aat aac gca tgc aag aat cag tgc att aga ctt gag aaa 447  
Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys  
110 115 120

gca cga cat gga tct tgc aac tat gtc ttc cca gct cac aag tgt atc 495  
Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile  
125 130 135 140

tgc tac ttt cct tgt taa taggagctc 522  
Cys Tyr Phe Pro Cys  
145

&lt;210&gt; 10

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

&lt;400&gt; 10

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn  
65 70 75 80Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly Gln Lys  
85 90 95Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn Asn  
100 105 110Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly  
115 120 125Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro  
130 135 140

Cys

145

<210> 11  
<211> 534  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic sequence

<220>  
<221> CDS  
<222> (76)..(525)

<400> 11  
ctcgagtatt tttacaacaa ttaccaacaa caacaaacaa caaacaacat tacaattact 60

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Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val  
1 5 10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159  
Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly  
15 20 25

gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207  
Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn  
30 35 40

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255  
Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His  
45 50 55 60

gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303  
Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe  
65 70 75

10

aat tgt aaa aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa 351  
Asn Cys Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu  
80 85 90

caa ctc atc gga aag agg cag aag ttg tgc caa agg cca agt ggg aca 399  
Gln Leu Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr  
95 100 105

tgg tca gga gtc tgt gga aac aat aac gca tgc aag aat cag tgc att 447  
Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile  
110 115 120

aga ctt gag aaa gca cga cat gga tct tgc aac tat gtc ttc cca gct 495  
Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala  
125 130 135 140

cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 534  
His Lys Cys Ile Cys Tyr Phe Pro Cys  
145

<210> 12

<211> 149

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 12

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys  
65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ile Gly  
85 90 95

Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val  
100 105 110

Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys  
115 120 125

Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile  
130 135 140

Cys Tyr Phe Pro Cys  
145

<210> 13

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Oligonucleotide

<220>

<221> misc\_feature

<222> (6, 9, 12, 15, 21)

<223> n is any residue

<400> 13

tgyganaang cnwsnaarac ntgg

12

<210> 14  
<211> 8  
<212> PRT  
<213> Dahlia merckii

<400> 14  
Cys Glu Lys Ala Ser Lys Thr Trp  
1 5

<210> 15  
<211> 606  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
sequence

<220>  
<221> CDS  
<222> (76)..(597)

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Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val  
1 5 10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159  
Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly  
15 20 25

gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207  
Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn  
30 35 40

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255  
Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His  
45 50 55 60

gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303  
Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe  
65 70 75

aat tgt aaa aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa 351  
Asn Cys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu  
80 85 90

caa ctc gct caa gac aaa ctt aat gcc caa aag ctt gac cgt gat gcc 399  
Gln Leu Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala  
95 100 105

aag aaa gtg gtt cca aac gtt gaa cat ccg atc gga aag agg cag aag 447  
Lys Lys Val Val Pro Asn Val Glu His Pro Ile Gly Lys Arg Gln Lys  
110 115 120

ttg tgc caa agg cca agt ggg aca tgg tca gga gtc tgt gga aac aat 495  
Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn Asn  
125 130 135 140

aac gca tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga 543  
Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly  
145 150 155

tct tgc aac tat gtc ttc cca gct cac aag tgt atc tgc tac ttt cct 591  
Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro  
160 165 170

tgt taa taggagctc 606  
Cys

<210> 16

<211> 173

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 16

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys  
65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala Gln  
85 90 95

Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val Val  
100 105 110

Pro Asn Val Glu His Pro Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg  
115 120 125

Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys  
130 135 140

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr  
145 150 155 160

Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
165 170

<210> 17  
<211> 534  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
sequence

<220>  
<221> CDS  
<222> (76)..(525)

<400> 17  
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atttacaatt acacc atg gtg aat cg<sup>g</sup> tcg gtt gc<sup>g</sup> ttc tcc gc<sup>g</sup> ttc gtt 111  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val  
1 5 10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159  
 Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly  
 15 20 25

gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207  
 Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn  
                  30                 35                 40

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acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat      255
Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His
45          50          55          60

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gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303  
Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe  
65 70 75

aat tgt gcc agt act act gtg gat cac caa gct gat gtt gct gcc acc 351  
Asn Cys Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr  
80 85 90

aaa act atc gga aag agg cag aag ttg tgc caa agg cca agt ggg aca 399  
Lys Thr Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr  
95 100 105

tgg tca gga gtc tgt gga aac aat aac gca tgc aag aat cag tgc att 447  
Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile  
110 115 120

aga ctt gag aaa gca cga cat gga tct tgc aac tat gtc ttc cca gct 495  
Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala  
125 130 135 140

cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 534  
His Lys Cys Ile Cys Tyr Phe Pro Cys  
145

<210> 18

<211> 149

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 18

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Ser  
65 70 75 80

Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr Ile Gly  
85 90 95

Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val  
100 105 110

Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys  
115 120 125

Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile  
130 135 140

Cys Tyr Phe Pro Cys  
145

<210> 19

<211> 316

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (76)..(312)

18

&lt;400&gt; 19

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Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val  
1 5 10ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159  
Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly  
15 20 25gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207  
Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn  
30 35 40acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255  
Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His  
45 50 55 60gga gcg tgt cat gtg cgt aat ggg aaa cac atg tgt ttc tgt tac ttc 303  
Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe  
65 70 75aat tgt tga gctc 316  
Asn Cys

&lt;210&gt; 20

&lt;211&gt; 78

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

&lt;400&gt; 20

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

19

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys  
65 70 75

<210> 21

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker  
peptide

<400> 21

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu  
1 5 10

<210> 22

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker  
peptide

20

&lt;400&gt; 22

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp  
1 5 10

&lt;210&gt; 23

&lt;211&gt; 11

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Linker  
peptide

&lt;400&gt; 23

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu  
1 5 10

&lt;210&gt; 24

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Linker  
peptide

&lt;400&gt; 24

Ala Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu  
1 5 10 15

Leu Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp

20

25

21

&lt;210&gt; 25

&lt;211&gt; 28

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Linker  
propeptide

&lt;400&gt; 25

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu  
1 5 10 15Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg  
20 25

&lt;210&gt; 26

&lt;211&gt; 52

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Linker  
propeptide

&lt;400&gt; 26

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu  
1 5 10 15Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys  
20 25 30Val Val Pro Asn Val Glu His Pro Ile Gly Lys Arg Ile Gly Lys Arg  
35 40 45

Ile Gly Lys Arg

50

<210> 27  
<211> 28  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Linker  
propeptide

<400> 27  
Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr  
1 5 10 15

Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg  
20 25

DO NOT DESTROY  
F0475  
<210> 28  
<211> 29  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Linker  
propeptide

<400> 28  
Ser Asn Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu  
1 5 10 15  
Leu Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro  
20 25

&lt;210&gt; 29

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Linker peptide

&lt;400&gt; 29

Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly

1

5

10

15

&lt;210&gt; 30

&lt;211&gt; 446

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
sequence

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)..(437)

&lt;400&gt; 30

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu

1

5

10

15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95

Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys

20

25

30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143

Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His

35

40

45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt aac 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Asn  
65 70 75

gcg gcc gac gag gtg gct acc cca gag gac gtg gaa cct ggt cag aag 287  
Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly Gln Lys  
80 85 90 95

ttg tgc caa agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat 335  
Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn  
100 105 110

aac gca tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga 383  
Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly  
115 120 125

tct tgc aac tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct 431  
Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro  
130 135 140

tgt taa taggagctc 446  
Cys

<210> 31

<211> 144

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 31

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe

1

5

10

15

25

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Asn Ala  
65 70 75 80

Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly Gln Lys Leu  
85 90 95

Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn  
100 105 110

Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser  
115 120 125

Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
130 135 140

<210> 32

<211> 443

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (3)..(434)

&lt;400&gt; 32

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu  
1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser  
65 70 75

aac gcg gcc gac gag gtg gct acc cca gag gac gtg gaa cag aag ttg 287  
Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Gln Lys Leu  
80 85 90 95

tgc caa agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac 335  
Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn  
100 105 110

gca tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct 383  
Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser  
115 120 125

tgc aac tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt 431  
Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
130 135 140

taa taggagctc

443

&lt;210&gt; 33

&lt;211&gt; 143

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;223&gt; Description of Artificial Sequence: Synthetic sequence

&lt;400&gt; 33

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn  
65 70 75 80

Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Gln Lys Leu Cys  
85 90 95

Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala  
100 105 110

Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys  
115 120 125

Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
130 135 140

<210> 34  
<211> 437  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic sequence

<220>  
<221> CDS  
<222> (3)...(428)

<400> 34

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt	47
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu	
1 5 10 15	
ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc	95
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys	
20 25 30	
gag aaa gct aac aag acg tgg tcg ggc aac tgg ggc aac acg gga cat	143
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His	
35 40 45	
tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt	191
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys	
50 55 60	
cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc	239
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser	
65 70 75	
aac gcg gcc gac gag gtg gct acc cca gag gac cag aag ttg tgc caa	287
Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Gln Lys Leu Cys Gln	
80 85 90 95	

29

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 335  
Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys  
100 105 110

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 383  
Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn  
115 120 125

tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 428  
Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
130 135 140

taggagctc 437

<210> 35

<211> 141

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 35

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn  
65 70 75 80

30

Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Gln Lys Leu Cys Gln Arg  
85 90 95

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys  
100 105 110

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr  
115 120 125

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
130 135 140

<210> 36

<211> 434

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (3)..(425)

<400> 36

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu  
1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
35 40 45

31

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser  
65 70 75

aac gcg gcc gac gag gtg gct acc cca gag cag aag ttg tgc caa agg 287  
Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Gln Lys Leu Cys Gln Arg  
80 85 90 95

cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc aag 335  
Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys  
100 105 110

aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac tat 383  
Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr  
115 120 125

cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 434  
Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
130 135 140

<210> 37

<211> 140

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 37

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn  
65 70 75 80

Ala Ala Asp Glu Val Ala Thr Pro Glu Gln Lys Leu Cys Gln Arg Pro  
85 90 95

Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn  
100 105 110

Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Arg  
115 120 125

Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
130 135 140

<210> 38

<211> 485

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (3)..(476)

<400> 38

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu

1

5

10

15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt gct 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala  
65 70 75

aac gct gag gaa gct gct gct att cct gaa gct tct gaa gaa ctt 287  
Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu  
80 85 90 95

gct caa gaa gaa gct cct gtg tac agt gaa gat cag aag ttg tgc caa 335  
Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln  
100 105 110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383  
Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys  
115 120 125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431  
Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn  
130 135 140

tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 476  
Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

taggagctc 485

<210> 39

<211> 157

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 39

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Asn  
65 70 75 80

Ala Glu Glu Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala  
85 90 95

Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln Arg  
100 105 110

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys  
115 120 125

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr  
130 135 140

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

<210> 40  
<211> 1093  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
sequence

<220>  
<221> CDS  
<222> (3)..(1085)

<400> 40

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu  
1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aac tgc gct 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala  
65 70 75

aac gct gag gaa gct gct gct att cct gaa gct tct gaa gaa ctt 287  
Asn Ala Glu Glu Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu  
80 85 90 95

gct caa gaa gaa gct cct gtg tac agt gaa gat cag aag ttg tgc caa 335  
Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln  
100 105 110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383  
Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys  
115 120 125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431  
Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn  
130 135 140

tat cgt ttc cca gct cac aag tgt atc tgc tac ttc cct tgt gcg aat 479  
Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys Ala Asn  
145 150 155

gct gaa gaa gct gct gct att cct gaa gct tct gaa gaa ctt gct 527  
Ala Glu Glu Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala  
160 165 170 175

caa gaa gaa gca ccg gtt tac tct gaa gat gac gga gtg aag ctc tgc 575  
Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Asp Gly Val Lys Leu Cys  
180 185 190

gac gtg cca tcc gga acc tgg tcc gga cac tgc ggt tcc tcc agc aag 623  
Asp Val Pro Ser Gly Thr Trp Ser Gly His Cys Gly Ser Ser Ser Lys  
195 200 205

tgc agc caa caa tgc aag gac agg gag cac ttc gct tac gga gga gct 671  
Cys Ser Gln Gln Cys Lys Asp Arg Glu His Phe Ala Tyr Gly Ala  
210 215 220

tgc cac tac caa ttc cca tcc gtg aag tgc ttc tgc aag agg caa tgc 719  
Cys His Tyr Gln Phe Pro Ser Val Lys Cys Phe Cys Lys Arg Gln Cys  
225 230 235

gct aac gct gag gaa gct gct gct att cct gaa gct tct gaa gaa 767  
Ala Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu  
240 245 250 255

ctt gct caa gaa gaa gct cct gtg tac agt gaa gat cag aac ata tgc 815  
Leu Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Asn Ile Cys  
260 265 270

cca agg gtt aat cga att gtg aca ccc tgt gtg gcc tac gga ctc gga 863  
Pro Arg Val Asn Arg Ile Val Thr Pro Cys Val Ala Tyr Gly Leu Gly  
275 280 285

agg gca cca atc gcc cca tgc tgc aga gcc ctg aac gat cta cgg ttt 911  
Arg Ala Pro Ile Ala Pro Cys Cys Arg Ala Leu Asn Asp Leu Arg Phe  
290 295 300

gtg aat act aga aac cta cga cgt gct gca tgc cgc tgc ctc gta ggg 959  
Val Asn Thr Arg Asn Leu Arg Arg Ala Ala Cys Arg Cys Leu Val Gly  
305 310 315

gta gtg aac cgg aac ccc ggt ctg aga cga aac cct aga ttt cag aac 1007  
Val Val Asn Arg Asn Pro Gly Leu Arg Arg Asn Pro Arg Phe Gln Asn  
320 325 330 335

att cct cgt gat tgt cgc aac acc ttt gtt cgt ccc ttc tgg tgg cgt 1055  
Ile Pro Arg Asp Cys Arg Asn Thr Phe Val Arg Pro Phe Trp Trp Arg  
340 345 350

cca aga att caa tgc ggc agg att aac taa tagagctc 1093  
Pro Arg Ile Gln Cys Gly Arg Ile Asn  
355 360

<210> 41

<211> 360

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

&lt;400&gt; 41

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Asn  
65 70 75 80

Ala Glu Glu Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala  
85 90 95

Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln Arg  
100 105 110

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys  
115 120 125

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr  
130 135 140

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys Ala Asn Ala  
145 150 155 160

Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala Gln  
165 170 175

Glu Glu Ala Pro Val Tyr Ser Glu Asp Asp Gly Val Lys Leu Cys Asp  
180 185 190

Val Pro Ser Gly Thr Trp Ser Gly His Cys Gly Ser Ser Ser Lys Cys  
195 200 205

Ser Gln Gln Cys Lys Asp Arg Glu His Phe Ala Tyr Gly Gly Ala Cys  
210 215 220

His Tyr Gln Phe Pro Ser Val Lys Cys Phe Cys Lys Arg Gln Cys Ala  
225 230 235 240

Asn Ala Glu Glu Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu  
245 250 255

Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Asn Ile Cys Pro  
260 265 270

Arg Val Asn Arg Ile Val Thr Pro Cys Val Ala Tyr Gly Leu Gly Arg  
275 280 285

Ala Pro Ile Ala Pro Cys Cys Arg Ala Leu Asn Asp Leu Arg Phe Val  
290 295 300

Asn Thr Arg Asn Leu Arg Arg Ala Ala Cys Arg Cys Leu Val Gly Val  
305 310 315 320

Val Asn Arg Asn Pro Gly Leu Arg Arg Asn Pro Arg Phe Gln Asn Ile  
325 330 335

Pro Arg Asp Cys Arg Asn Thr Phe Val Arg Pro Phe Trp Trp Arg Pro  
340 345 350

Arg Ile Gln Cys Gly Arg Ile Asn  
355 360

&lt;210&gt; 42

&lt;211&gt; 485

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic sequence

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)...(476)

&lt;400&gt; 42

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu

1

5

10

15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95

Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys

20

25

30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143

Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His

35

40

45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191

Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys

50

55

60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt aaa 239

His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys

65

70

75

aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa caa ctc atc 287

Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ile

80

85

90

95

gga aag agg atc gga aag agg atc gga aag agg cag aag ttg tgc caa 335  
Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln  
100 105 110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383  
Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys  
115 120 125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431  
Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn  
130 135 140

tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 476  
Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

· taggagctc 485

<210> 43

<211> 157

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 43

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys  
65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ile Gly  
85 90 95

Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg  
100 105 110

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys  
115 120 125

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr  
130 135 140

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

<210> 44

<211> 557

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (3)..(548)

<400> 44

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu  
1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt aaa 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys  
65 70 75

aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa caa ctc gct 287  
Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala  
80 85 90 95

caa gac aaa ctt aat gcc caa aag ctt gac cgt gat gcc aag aaa gtg 335  
Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val  
100 105 110

gtt cca aac gtt gaa cat ccg atc gga aag agg atc gga aag agg atc 383  
Val Pro Asn Val Glu His Pro Ile Gly Lys Arg Ile Gly Lys Arg Ile  
115 120 125

gga aag agg cag aag ttg tgc caa agg cca agt cgt aca tgg tca gga 431  
Gly Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly  
130 135 140

gtc tgt gga aac aat aac gca tgc aag aat cag tgc att aga ctt gag 479  
Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu  
145 150 155

aaa gca cga cat gga tct tgc aac tat cgt ttc cca gct cac aag tgt 527  
Lys Ala Arg His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys  
160 165 170 175

atc tgc tac ttt cct tgt taa taggagctc 557  
Ile Cys Tyr Phe Pro Cys  
180

<210> 45

<211> 181

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 45

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys  
65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala Gln  
85 90 95

Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val Val  
100 105 110

Pro Asn Val Glu His Pro Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly  
115 120 125

Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val  
130 135 140

Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys  
145 150 155 160

Ala Arg His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile  
165 170 175

Cys Tyr Phe Pro Cys  
180

<210> 46

<211> 485

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (3)...(476)

<400> 46

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu  
1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt gcc 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala  
65 70 75

agt act act gtg gat cac caa gct gat gtt gct gcc acc aaa act atc 287  
Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr Ile  
80 85 90 95

gga aag agg atc gga aag agg atc gga aag agg cag aag ttg tgc caa 335  
Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln  
100 105 110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383  
Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys  
115 120 125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431  
Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn  
130 135 140

tat ctg ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 476  
Tyr Leu Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

taggagctc 485

&lt;210&gt; 47

&lt;211&gt; 157

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

&lt;400&gt; 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Ser  
65 70 75 80Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr Ile Gly  
85 90 95Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg  
100 105 110Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys  
115 120 125Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr  
130 135 140Leu Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

<210> 48  
<211> 488  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic sequence

<220>  
<221> CDS  
<222> (3)..(479)

<400> 48

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu  
1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239  
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser  
65 70 75

aac gcg gcc gac gag gtg gct acc cag ctg ttg aat ttt gac ctt ctt 287  
Asn Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu  
80 85 90 95

aag ctt gcg gga gac gtc gag tcc aac cct ggg ccc cag aag ttg tgc 335  
Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Gln Lys Leu Cys  
100 105 110

caa agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca 383  
Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala  
115 120 125

tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc 431  
Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys  
130 135 140

aac tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 479  
Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

taggagctc 488

<210> 49

<211> 158

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 49

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

50

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn  
65 70 75 80

Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu Lys  
85 90 95

Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Gln Lys Leu Cys Gln  
100 105 110

Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys  
115 120 125

Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn  
130 135 140

Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
145 150 155

<210> 50

<211> 575

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<220>

<221> CDS

<222> (3)..(566)

<400> 50

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47  
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu  
1 5 10 15

51

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95  
 Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys  
 20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143  
 Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His  
 35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191  
 Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys  
 50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239  
 His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser  
 65 70 75

aac gcg gcc gac gag gtg gct acc cag ctg ttg aat ttt gac ctt ctt 287  
 Asn Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu  
 80 85 90 95

aag ctt gcg gga gac gtc gag tcc aac cct ggg ccc atg gct aag ttt 335  
 Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Met Ala Lys Phe  
 100 105 110

gcg tcc atc atc gca ctt ctt ttt gct gct ctt gtt ctt ttt gct gct 383  
 Ala Ser Ile Ile Ala Leu Leu Phe Ala Ala Leu Val Leu Phe Ala Ala  
 115 120 125

ttc gaa gca cca aca atg gtg gaa gca cag aag ttg tgc caa agg cca 431  
 Phe Glu Ala Pro Thr Met Val Glu Ala Gln Lys Leu Cys Gln Arg Pro  
 130 135 140

agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc aag aat 479  
 Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Ala Cys Lys Asn  
 145 150 155

cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac tat cgt 527  
Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Arg  
160 165 170 175

ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 575  
Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
180 185

<210> 51

<211> 187

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 51

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe  
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu  
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys  
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His  
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn  
65 70 75 80

Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu Lys  
85 90 95

Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Met Ala Lys Phe Ala  
100 105 110

Ser Ile Ile Ala Leu Leu Phe Ala Ala Leu Val Leu Phe Ala Ala Phe  
115 120 125

Glu Ala Pro Thr Met Val Glu Ala Gln Lys Leu Cys Gln Arg Pro Ser  
130 135 140

Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln  
145 150 155 160

Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Arg Phe  
165 170 175

Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys  
180 185

<210> 52

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<221> misc\_feature

<222> (9, 12, 15)

<223> n is any residue

<220>

<223> Description of Artificial Sequence:

Oligonucleotide

<400> 52

carttraant ancanaaarc acat

<210> 53  
<211> 8  
<212> PRT  
<213> Dahlia merckii

<400> 53  
Met Cys Phe Cys Tyr Phe Asn Cys  
1 5

00260000000000000000000000000000  
<210> 54  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
Oligonucleotide

<400> 54  
aaacacatgt gtttcccatt

20

<210> 55  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
Oligonucleotide

<400> 55  
agcgtgtcat gtgcgtaat

19

<210> 56  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
Oligonucleotide

<400> 56  
taaagaaaacc gaccctttca cg 23

<210> 57  
<211> 107  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 57  
atgcatccat ggtgaatcg 60  
tcgggtgcgt tctccgcgtt cgttctgatc ctttcgtgc  
tcgccccatctc agatatcgca tccgttagtg gagaactatg cgagaaa 107

<210> 58  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 58  
aaaccgaccg agtcacgga tggtaaacgt ttggAAC 37

<210> 59  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 59  
agcaagctt tcgggagctc aacaattgaa gtaa

34

<210> 60  
<211> 89  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 60  
gcctttggca caacttctgt cctggctcca cgtcctctgg ggttagccacc tcgtcagcag 60  
cgttggaaca attgaagtaa cagaaacac

89

<210> 61  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 61  
tttagagctcc tattaacaag gaaagtgc

29

<210> 62  
<211> 55  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 62  
gcctttggca caacttctgc ctcttccga tgagttgttc ggcttaagt ttgtc 55

<210> 63  
<211> 53  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer  
<400> 63  
gcctttggca caacttctgc ctcttccga tcggatgttc aacgttgaa acc 53

<210> 64  
<211> 101  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<400> 64  
gcctttggca caacttctgc ctcttccga tagtttggt ggcagcaaca tcagcttgg 60  
gatccacagt agtactggca caattgaagt aacagaaaaca c 101

<210> 65  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 65  
Lys Asp Glu Leu  
1

<210> 66  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<221> misc\_feature  
<222> (9, 12, 21)  
<223> n is any residue

<220>  
<223> Description of Artificial Sequence:  
Oligonucleotide

<400> 66  
atggcsaanm rntcrgttgc ntt

23

<210> 67  
<211> 4  
<212> PRT  
<213> Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
sequence

&lt;400&gt; 67

Ile Gly Lys Arg

1

&lt;210&gt; 68

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Primer

&lt;400&gt; 68

aggaagttca tttcatttgg

20

&lt;210&gt; 69

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Determined  
N-terminal sequence

&lt;400&gt; 69

Glu Leu Cys Glu Lys Ala Ser

<210> 70  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Determined  
N-terminal sequence

<400> 70  
Asp Val Glu Pro Gly Gln Lys  
1 5

<210> 71  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Determined  
N-terminal sequence

<400> 71  
Leu Ile Gly Lys Arg Gln Lys  
1 5

<210> 72  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Predicted  
C-terminal sequence

<400> 72

Cys Tyr Phe Asn Cys Ser

1

5

<210> 73

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Predicted  
C-terminal sequence

<400> 73

Ile Cys Tyr Phe Pro Cys

1

5

<210> 74

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Predicted  
C-terminal sequence

<400> 74

Cys Tyr Phe Asn Pro Ser

1

5

<210> 75  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Predicted  
C-terminal sequence

<400> 75  
Cys Tyr Phe Asn Cys Lys  
1 5

0922000000000000  
-  
<210> 76  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Predicted  
C-terminal sequence

<400> 76  
Cys Tyr Phe Asn Cys Ala  
1 5

<210> 77  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 77

Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg  
1 5 10

<210> 78

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 78

Val Ser Gly Glu Leu Cys  
1 5

<210> 79

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
sequence

<400> 79

Phe Asn Cys Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val  
1 5 10 15

Glu Pro Gly Gln Lys Leu

20

<210> 80

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic sequence

<400> 80

Phe Asn Cys Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala  
1 5 10 15

Glu Gln Leu Ile Gly Lys Arg Gln Lys Leu  
20 25

<210> 81

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic sequence

<400> 81

Phe Asn Cys Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala  
1 5 10 15

Thr Lys Thr Ile Gly Lys Arg Gln Lys Leu  
20 25